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about the latitude of southern Monterey County. On the east side of the Sierras there were none, nor was any *Passerella* found as far as the Museum expedition went to the north of this limit. We know that *megarhyncha* comes in still farther north, but between Mt. Whitney and the southern half of Tulare County there seems to be a hiatus as far as *Passerella* is concerned.

The situation now is that *stephensi* has been found breeding as far north as above outlined in Tulare County, possibly wintering in Santa Barbara County, and an occasional winter visitor to Marin County, very much farther north. The distance from its next most northern record to Marin County is something like 175 or 200 miles, at least, with plains, lowlands, rivers or bays to cross, and with absolutely no records between these extremes, making this situation an extremely interesting one, and proving that there is room for a lot of investigating in this line. It also apparently shows another exception to the rule that birds do not winter north of their breeding grounds.

The two photographs herewith presented are to show the similarity of the ground occupied by *stephensi* in its breeding range in the San Jacinto Mountains and in its wintering place in Marin County. Both localities are rocky, waste areas, covered with cypress in Marin County—which is replaced by chinquapin on the breeding ground, though a little of this is found in Marin County also, and with ceanothus and manzanita in both places. In Marin the elevation at which these birds are found is about 1500 feet while in their southern breeding grounds it varies from 7000 to 9000 feet. Singularly to state they are found in Marin County only upon the very tops of the ranges, and never even such a small matter as two or three hundred feet below the tops, although the conditions may seem absolutely the same.

NESTING OF THE CANADA GOOSE AT LAKE TAHOE

By MILTON S. RAY

WITH FOUR PHOTOS BY THE AUTHOR

MICHAEL RYAN, an old settler of Lake Valley, has assured me that he has noted geese nesting at Rowland's Marsh almost every spring since he first came, thirty years ago. Be this as it may, I failed to record the bird on trips through the marsh in 1901, 1902, 1903 and 1906; and while a large, noisy bird like the Canada Goose could hardly be overlooked. I must acknowledge not visiting some of the sections of the marsh where I have since found it rather common.

My first acquaintance with the goose was made on the first of June, 1909, when I came upon a pair at the north end of the marsh. The birds were very wild and kept well out of gun range. I searched the vicinity but failed to locate any nest. Some days later I learned that the keeper of a nearby resort had a short time previously collected a nest of eggs of the goose. These he had hatched beneath a domestic hen, and the young were successfully reared. I feel quite sure it was the parents which I observed, and also feel rather certain it was the only pair in the marsh that year.

On arriving at Bijou, May 20, 1910, I was informed that geese had become more abundant than ever in the marsh, and that residents who lived close by had

been accustomed to make frequent excursions in late April and early May for the purpose of collecting fresh goose eggs for use on the table. Mr. Connolly of Bijou, having a permit, collected a set which he placed to hatch under a hen, but without success. Shortly after, the local game warden issued warning, and the rifling of goose nests was stopped.

Anxious to learn something of their nesting habits, and hoping I might be in time to find a nest or so, May 23 found me rowing up the fresh water sloughs of the marsh, unmindful of the numerous terns, blackbirds, and other swamp denizens, in my quest for a prospective home of the goose. Nor was I long without reward, for when about one hundred feet from a little island that boasted of a few lodgepole pine saplings and one willow, a goose rose from her nest, took a short run, and rising with heavy flight and loud cries, flew out to open water, where she was joined by her mate. The cries of the pair echoed so loudly over



Fig. 23. NEST OF CANADA GOOSE; DEAD MAN'S ISLAND, LAKE TAHOE.
THE EGGS WERE COVERED WITH DOWN BY THE PARENT BIRD
WHEN LEAVING THE NEST

the marsh that it seemed the whole region must be awakened.

Landing on the island I found on the ground, at the edge of the willow, a large built-up nest with seven almost fresh eggs. The nest was composed wholly of dry marsh grasses and down, and measured twenty-two inches over all, while the cavity was eleven inches across and three inches deep. The eggs measured in inches: 3.43x2.21, 3.40x2.21, 3.32x2.25, 3.31x2.22, 3.20x2.25, 3.13x2.25, 3.06x2.15. They are dull yellowish white in color, and in shape vary from ovate to elongate ovate.

After a row of several miles I noticed a gander in the offing, whose swimming in circles and loud honking gave assurance that the nesting precincts of another pair had been invaded. A heavily timbered island, now close at hand, seemed the most probable nesting place. This isle was so swampy that most of the

growth had been killed, and fallen trees, other impedimenta, and the icy water, made progress difficult. I had advanced but a short distance, however, when a goose flushed from her nest at the foot of a dead tree. This nest was very similar to the first one found, and, like it, also held seven eggs, but these were considerably further along in incubation. The set varies only slightly in shape and coloration from the first. The eggs, however, average considerably larger, measuring: 3.71×2.31 , 3.68×2.34 , 3.62×2.26 , 3.48×2.31 , 3.41×2.27 , 3.31×2.25 , 3.18×2.25 .

On the homeward journey, while returning through the marsh by a different channel, I beheld the snake-like head of a goose above the tall grass (for the spring had been unusually early) on a level tract some distance away. Approaching nearer, the bird took flight, and on reaching the spot I found my third nest. As it contained five eggs all on the point of hatching, I lost no time in allowing the parent to return.



Fig. 24. NEST OF CANADA GOOSE; ROWLAND'S MARSH, LAKE TAHOE

Two days later, with Mr. Benjamin Thrasher, I revisited the nest. Mr. Connolly of Bijou held a permit from the Fish Commission, and was desirous of raising some of the young birds, while I saw an opportunity of getting a series, perhaps, of interesting photographs. Thrasher and I came none too soon, for on nearing the spot the goose went flapping over the ground, waterward, with four small goslings weakly following. These latter we caught just before the edge of the slough was reached. Together with the fifth, which, not entirely free from the shell, was still in the nest, they were placed in a box between the soft folds of a woolen blanket, and with much disconsolate peeping, were taken to Bijou.

Under the care of Mrs. Connolly, whose previous experience in raising turkeys proved a great help, the entire number were reared successfully, and soon

became objects of considerable interest about the hotel grounds. The goslings ventured early to a little pond along the stream which courses lakeward from the Bijou meadow, and as they grew older were to be found disporting themselves on the crystal waters of Tahoe or wandering with a complacent and impudent air about the lake village. While not wild, the birds were not particularly friendly, except to Mrs. Connolly, for whom they displayed remarkable affection and whom they would follow almost everywhere.

Unfortunately, before reaching goosehood one of the band was killed by a dog, and another being stolen their number was reduced to three. It soon became necessary to clip the wings of the birds to prevent them from taking flight. Mr. Heinemann took a series of photographs of the young birds at different dates, but unfortunately the entire box of plates proved defective. This we did not learn, however, until some time after our return to San Francisco in July. I wrote to Allen, a photographer of Bijou, who took the picture herewith shown. The birds were then two months old, so one may get an idea of the astonishing rate at which they grew. I may add that Mr. Connolly found he would be unable to keep the birds through the winter and they were shipped by a bird fancier to his home in southern California.

The spring of the present year (1911) was as late as that of the previous year had been early, and as I rowed to the marsh on the morning of May 15 the shores en route were covered with snow, while such a bitterly cold breeze was blowing that even ardent ornithological enthusiasm was somewhat chilled. On reaching the marsh I found snow about everywhere, pond lilies were just budding up beneath the water, marsh grass was timidly peeping up in the bare places where the snow had left, while tules, lying dead and mottled like the naked willows, showed no evidence as yet that the grip of winter had been broken.

In the matter of nesting, notwithstanding the lateness of the season, I found the geese farther advanced than last year; but I attribute the later date last year to the fact that most of those found were no doubt second sets.

I visited practically the same sections as I had previously, and found the birds had increased in numbers. In all I located five nests, three of six eggs, one of seven and one of five. The sets varied from those almost fresh to those in which incubation was well advanced. In situation and composition the nests, some of which are herewith pictured, were in nowise different from those of 1910. In one instance the bird, before leaving, hurriedly covered the eggs with material of the nest after the manner of a grebe.

With the second nest found the parent goose was collected (weight $8\frac{3}{4}$ lbs.), but I was unable to secure the gander, as the bird kept well out of range. Wading in frigid water and over snow-banks with shot-gun and camera, while a most cutting wind blew off snow-covered hills and mountains, was an experience I do not look forward to repeating. At half-past two an approaching storm suggested the advisability of a hasty departure, which I was not reluctant to make.

I had heard of another colony of geese nesting on Dead Man's Isle, in Emerald Bay, ten miles from Bijou, but as rough weather prevailed most of the time on Tahoe I did not take this trip until the 25th of May. Dead Man's Isle is only about an eighth of a mile long, very narrow, rocky and precipitous. Trees are quite numerous, although there is but little apparent soil, and they seemingly rise from crevices between the bare rock. Rather curiously, nearly all the common species found around the lake are represented. In winter, with the freezing over of Emerald Bay, the island becomes virtually a part of the mainland, and in

the spring, when the ice breaks up, such mammals as happen to be on it find themselves isolated; and it is to such of these as find in the surrounding waters an impassable barrier that the animal life is limited.

I found the goose colony to consist of but a single nest, placed on the bare rock at the foot of a giant Jeffrey pine near the water's edge. It was made entirely of pine needles, with the usual down-lining, and held an addled egg, while numerous empty shells lay strewn about. The parents were noticed about half a mile down the bay.

Two days later at Rowland's Marsh, I located another goose nest with the small complement of two eggs, one infertile and one from which the chick was just emerging. The nest was placed against a fallen log, and besides the lining of down was composed entirely of chips of pine bark, a quantity of which lay



Fig. 25. NEST OF CANADA GOOSE; ROWLAND'S MARSH, LAKE TAHOE

near. From the variety of material used in the composition of the nests found, it seems evident that the birds have little or no preference for any particular substance, but use that most easily available.

On the day after the arrival of Messrs. Carriger and Littlejohn (June 5), a tramp was taken along the Little Truckee River. This, ordinarily, is a stream of moderate size, but now, with the rush of water from fast melting snow, had become in places as wide as half a mile. Some distance up this stream we flushed a pair of geese, which from their actions I judged to have a nest somewhere in the immediate vicinity. After a careful search we came to the conclusion that it must lie somewhere on a group of small inaccessible islands now partially submerged by the rapidly rising waters. Littlejohn followed the pair farther up stream, and, losing them for a time, was surprised to see one suddenly take wing

with a loud cry from one of the lower limbs of a massive pine above his head. This was the only occasion on which a bird was seen to alight in a tree.

A long day's work at the marsh on June 9 revealed three more nests. The first of these, one with six eggs, well incubated, was the most perfectly built nest of the goose that I have ever seen, being constructed with all the care that most of the smaller birds exercise. It was made principally of dry marsh grasses. The second nest held a set of five eggs, and was placed by a small willow on a little mound of earth rising in a tule patch in a secluded portion of the swamp. Dry tules entered largely into its composition. In this instance the bird did not rise until we were within twenty-five feet, although they usually flushed at a distance varying from forty to one hundred feet. The last nest, found and collected by Carriger, was deserted, having been flooded by the recent rise of water. The six eggs it contained were addled.

In closing I may say the recording of the White-cheeked Goose (*Branta*

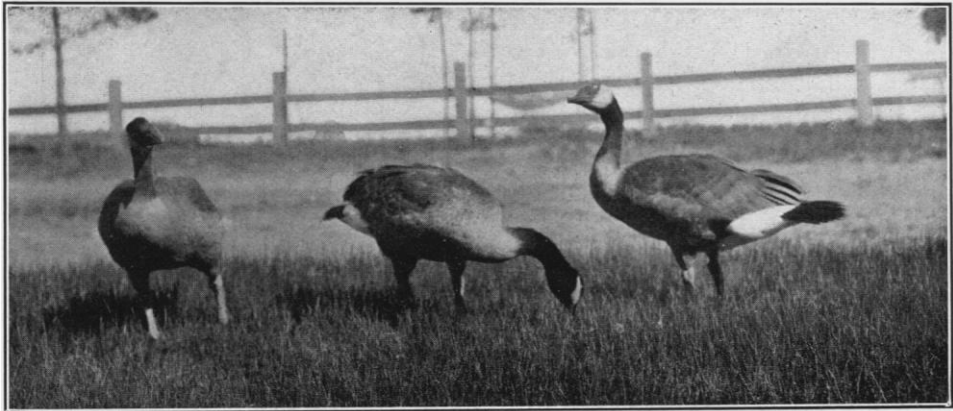


Fig. 26. YOUNG CANADA GESE, TWO MONTHS OLD. RAISED IN CAPTIVITY.
LAKE TAHOE, CALIFORNIA

canadensis occidentalis) at Lake Tahoe (Pacific Coast Avifauna, No. 3, p. 21), not being based, so far as I have been able to learn, on an actual skin, seems very questionable; personally I consider it an error. Regarding the specimen collected, now number 17,224 of the collection of the Museum of Vertebrate Zoology at Berkeley, Mr. Grinnell writes as follows: "As to the identity of the goose, it is *not* the White-cheeked Goose, as has been generally supposed since the early writings of Belding. We have here what is commonly called the White-cheeked Goose (*B. c. occidentalis*) from the Sitkan district. It is slightly smaller and *very* much darker than your bird. Your bird is practically a duplicate of one we have here from southern California, and which we have always considered very close to *B. c. canadensis*. In other words, the breeding goose of the Sierras (and probably of all the lakes of northeastern California) is the Canada Goose (*Branta canadensis canadensis*), or at least the closest to it of any of the described forms."